



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appellants: Simonutti et al.  
Title: HIGH VELOCITY GOLF BALL  
Appl. No.: 10/780,005  
Filing Date: 17 February 2004  
Examiner: Alvin A. Hunter  
Art Unit: 3711

<p><b>CERTIFICATE OF FIRST CLASS MAILING</b> I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail under 37 C.F.R. § 1.8 on the date indicated below and is addressed to: Mail Stop: Appeal Brief, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.</p> <p>August 5, 2008</p> <hr/> <p>(Date of Deposit)</p> <hr/> <p>Katie Nolan (Printed Name)</p> <hr/> <p><i>Katie Nolan</i> (Signature)</p>
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**APPELLANTS' REPLY BRIEF UNDER 37 CFR 41.41**

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Dear Sir:

Dear Sir:

Appellants herewith file their Reply Brief in the above-identified case, in response to the Examiner's Answer mailed 18 July 2008. Appellants respectfully submit that the Examiner's assertions are incorrect as a matter of law and fact. Thus, for the reasons set forth below, Appellants respectfully request that this Board reverse the rejections of claims 1, 2, 5, 8, 10-13, 18, 19, 28-30, 32-34, 36, 37, 41, 42, and 57-68 under 35 U.S.C. §103(a).

In the Examiner's Answer, the Examiner reiterates the rejections of claims 1, 2, 5, 8, 10-13, 18, 19, 28-30, 32-34, 36, 37, 41, 42, and 57-68 under 35 U.S.C. §103(a) presented in the Office Action mailed 27 March 2008, and then presents a response to Appellants' arguments presented in the Appeal Brief.

Appellants maintain that the cited references fail to collectively disclose, teach, or suggest Appellants' claimed golf ball.

## RESPONSE TO EXAMINER'S COMMENTS

Appellants maintain that the golf ball constructions disclosed and taught by *Sullivan '561* and *Statz et al.* do not inherently result in golf balls possessing the Shore D hardness and initial velocity requirement of Appellants' claim 1.

The Examiner's Answer cites MPEP 2123, noting that disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or non-preferred embodiment. Appellants are not suggesting that *Sullivan '561* teaches away from a golf ball having a cover layer with a Shore D hardness value of greater than 70. Instead, Appellants note that the reference in *Sullivan '561* to a cover layer having a Shore D hardness value of at least 60 is a broad statement encompassing most golf balls. ***Sullivan '561* does not disclose or identify the significance of producing a golf ball having a cover layer with a Shore D hardness value of greater than about 70, particularly with the initial velocity requirement of Appellants' claim 1.**

In the Remarks section on page 10, the Office Action asserts that "the examples [in *Sullivan '561*] show the hardness of the outer cover being Shore D 68, or about 70." While *Sullivan '561* includes examples (*i.e.*, Comparative Example 1 and Example 1 in columns 15 and 16) in which the Shore D hardness is as high as 68, nowhere does *Sullivan '561* teach or suggest a golf ball having a cover layer with a Shore D hardness value of "about 70" or, more particularly, greater than about 70. Furthermore, the golf balls in these examples having an outer cover with a Shore D hardness of 68 each have a COR of 0.807 *or less* (measured at a test velocity of 125 feet-per-second); whereas Appellants' claim 2 specifically recites a COR of ***greater than 0.815*** at a test velocity of 150 feet-per-second.

Appellants' data provided in Table 4 on page 13 of the application shows the linear relationship between COR and velocity, with COR ***decreasing*** as velocity ***increases***. In reference to dependent claim 2, which adds the limitation "the golf ball has a coefficient of restitution of greater than 0.815 at a test velocity of 150 feet-per-second," *Sullivan '561* discloses a golf ball having a coefficient of restitution ("COR") of at least 0.750 with a test velocity of 125 +/- 5 fps. The COR is linearly related to velocity along a ***negative*** slope. Thus, the parameters are inversely proportional, with COR decreasing as test velocity increases. This relationship results, at least in part, because as the velocity increases, the golf ball deforms more upon impact, and the energy absorbed by the deformation reduces the golf ball's return velocity, and therefore its COR. Therefore the 0.750 COR of *Sullivan '561* at a test velocity of 125 fps would actually ***decrease*** at a velocity of 150 fps as required by claim 2. Accordingly, *Sullivan '561* does not teach, suggest or disclose the COR and velocity limitation

of dependent claim 2. Similarly, all of the COR values listed in *Statz et al.* are measured at a test velocity of 125 fps, none of which are as high as, or higher than, Appellants' recited value of 0.815 (at 150 fps).

As noted in the Office Action and in the Examiner's Answer, Appellants' claim 1 includes structural limitations as well as performance-based property limitations. More particularly, the golf ball comprises a solid center having a deflection within a specific range; at least one intermediate layer comprising a specific thermoplastic material; and a cover layer having a particularly high Shore D hardness. With all of these components combined, the resulting golf ball has exceptional initial velocity properties when struck with a driver club.

A variety of factors can affect the initial velocity property of a golf ball. For example, the weight, specific fillers, and/or size of the ball can all affect the initial velocity. **The initial velocity limitation distinguishes Appellants' claimed golf ball from other golf balls**, such as those that sacrifice the high initial velocity for greater distance. Appellants note that the U.S. Patent & Trademark Office database includes at least 40 issued golf-related U.S. patents that include initial velocity claim limitations, which suggests that such limitations have been found to distinguish claims from other golf balls.

With respect to the *Yamagishi et al.* reference, this reference does not disclose a golf ball wherein the core, intermediate layer and cover have approximately the same specific gravity. **While the ranges of specific gravity of each of the components overlap one another, there is no suggestion or motivation to produce each of the components with approximately the same specific gravity.** Instead, *Yamagishi et al.* teaches increasing the moment of inertia of the golf ball by moving as much weight to the outer portion of the golf ball as possible. Thus, in column 2, lines 31-34, *Yamagishi et al.* teaches that the cover outer layer must have a higher specific gravity than the cover inner layer, thereby specifically teaching away from the components having approximately the same specific gravity as recited in claims 11 and 12.

Moreover, *Yamagishi et al.* is devoid of any disclosure, teaching or suggestion of a golf ball having a core, a mantle, and a cover layer with approximately the same specific gravity, such that when the ball is rotated in a solution of salt water of sufficient density to support the ball, the ball exhibits no single preferred orientation. As stated in the present application, such balance improves the intended flight and roll path of the ball.

Appellants' claims 10, 36, 13, and 37 include the limitations "wherein the ball has a diameter of less than about 1.680 in." and "wherein the ball has a diameter within the range of

1.62 to 1.65 inches,” respectively. In contrast, the disclosure of *Sullivan ‘561* is consistent with USGA requirements that require a minimum golf ball diameter of 1.68 inches. *Sullivan ‘561* specifically states, “[t]he ball preferably has a diameter of at least 1.68 inches, and more preferably at least 1.70 inches.”

The Examiner’s Answer, once again, cites MPEP 2123, noting that the preferred embodiments do not limit the disclosure of the patent. However, *Sullivan ‘561* fails to disclose or teach a diameter of less than 1.68 inches. In light of the strictly enforced, well-known USGA minimum diameter requirement for golf ball design, neither the USGA nor a person of ordinary skill in the art would equate a diameter of 1.68 inches with a diameter within the range of 1.62 to 1.65 inches. The decreased diameter of the golf ball of claims 10, 13, 36, and 37 facilitates the golf ball’s high velocity performance.

Despite the disclosure in *Caschera, Jr.*, there is no suggestion or motivation to modify the golf ball of *Sullivan ‘561* to have a diameter smaller than 1.680 inches, because such a modification would be repugnant to the teachings of *Sullivan ‘561*. As set forth in MPEP 2143.01(VI), if a proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *Sullivan ‘561* is directed to a USGA-approved golf ball. Clearly, the modifications proposed by the Office Action would push the golf ball outside the parameters of USGA approval, thereby changing the principle of operation of the *Sullivan ‘561* ball.

Similarly, *Sullivan ‘561* specifically discloses a golf ball having a weight within the range of 43.8 to 45.9 grams, well outside the ranges specified by Appellants’ claims 60, 61, 65, and 66. This disclosure of *Sullivan ‘561* is consistent with USGA requirements that require a *maximum* golf ball weight of 1.62 ounces. The golf balls of claims 60, 61, 65, and 66 are outside of the USGA requirements and outside of the disclosure and teachings of *Sullivan ‘561*. Despite the disclosure in *Caschera, Jr.*, there is no suggestion or motivation to modify the golf ball of *Sullivan ‘561* to have a weight greater than 1.62 ounces (45.9 grams), because such a modification would be repugnant to the teachings of *Sullivan ‘561*.


### CONCLUSION

Appellants maintain that the cited references fail to collectively disclose, teach, or suggest Appellants’ claimed golf ball. For at least the reasons presented in the Appeal Brief, and

the additional reasons presented above, Appellants respectfully submit that the Examiner's Answer does not overcome Appellants' Appeal Brief. Therefore, Appellants respectfully request that the Board reverse the rejections proposed by the Patent Office.

Respectfully submitted,

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